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Claims

[c1] A neck seal for use in an emergency breathing apparatus having an interior and an exterior; the neck seal comprising:
an annular sheet of elastomeric material having a substantially central aperture for donning over a person's head, the substantially central aperture being sized appropriately for snug fitting around the person's neck so as to be sufficiently tight to prevent passage between the person's neck and the neck seal of fluid materials without choking the person;
wherein the neck seal is coated at least in part with parylene, to thereby prevent passage through the elastomeric material of NBC/CBR materials.

[c2] The neck seal of claim 1, wherein the elastomeric material of the neck seal is at least in part silicone.

[c3] The neck seal of claim 1, wherein the neck seal has a first side and a second side and is substantially entirely coated with parylene on at least one of the first side and the second side.

[c4] The neck seal of claim 3, wherein the first side is dis-

posed facing the interior of the emergency breathing apparatus and is substantially entirely coated with parylene.

[c5] The neck seal of claim 3, wherein the second side is disposed facing the exterior of the emergency breathing apparatus and is substantially entirely coated with parylene.

[c6] The neck seal of claim 3, wherein both the first side and the second side of the neck seal are substantially entirely coated with parylene.

[c7] The neck seal of claim 1, wherein the parylene coating on the neck seal is approximately 1.0 micron to approximately 2.0 microns thick.

[c8] The neck seal of claim 7, wherein the parylene coating on the neck seal is approximately 1.5 microns thick.

[c9] An improved protective breathing apparatus having a hood for fitting over the user's head and a neck seal connected at the base of the hood, the neck seal being formed of elastomeric material and having an opening for passage therethrough of the user's head upon stretching of the neck seal, wherein the improvement comprises a coating of parylene on the elastomeric material forming the neck seal to thereby deter passage

through the neck seal of NBC/CBR agents.

[c10] The protective breathing apparatus of claim 9, wherein the elastomeric material forming the neck seal is at least in part silicone.

[c11] The protective breathing apparatus of claim 9, wherein the breathing apparatus has a face shield including a transparent area for viewing therethrough.

[c12] The protective breathing apparatus of claim 9, wherein the parylene coating is about 1.0 to about 2.0 microns thick.

[c13] The protective breathing apparatus of claim 12, wherein the parylene coating on the elastomeric neck seal is approximately 1.5 microns thick.

[c14] The protective breathing apparatus of claim 9, and further comprising a scrubber device attached to an internal surface of the hood portion of the breathing apparatus substantially adjacent to the neck seal.

[c15] An improved emergency personal oxygen system comprising:
a fire-resistant fabric pouch for containing a vacuum sealable pouch and a protective breathing apparatus;
a vacuum sealable pouch for containing a protective

breathing apparatus; and

a protective breathing apparatus including a hood portion and a neck seal having two opposed surfaces connected to the hood portion and an transportable oxygen source in fluid contact with the interior of the breathing apparatus; wherein the improvement comprises a coating of parylene substantially entirely over at least one of the two opposed surfaces of the neck seal to thereby deter passage through the neck seal of NBC/CBR agents.